

***United States Court of Appeals
for the
District of Columbia Circuit***



**TRANSCRIPT OF
RECORD**

BRIEF AND APPENDIX FOR APPELLEE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

APPEAL No. 10,587

**NELLIE PAULINE FLETCHER AND WILLIAM ARTHUR
FLETCHER, APPELLANTS**

v.

**UNITED STATES ATOMIC ENERGY COMMISSION,
APPELLEE**

**APPEAL FROM THE UNITED STATES ATOMIC ENERGY
COMMISSION**

**H. L. GODFREY,
Attorney, Department of Justice,
Washington 25, D. C.**

*United States Court of Appeals
For the
District of Columbia Circuit*

FILED OCT 23 1950

Joseph W. Stewart

CLERK

STATEMENT OF QUESTIONS PRESENTED

1. Are the appellants entitled to compensation under the Atomic Energy Act when their patent No. 1,715,283 is not revoked by the Act, and the circuits disclosed therein have not been used by the Atomic Energy Commission, nor in connection with the atomic energy program?

2. Are the appellants entitled to compensation under the Atomic Energy Act when their patent No. 2,060,005, which is directed to a "Combined Light and Flower Holder", is not useful in the production of fissionable material or in the utilization of fissionable material or atomic energy, and where it has not been used by the Atomic Energy Commission in any manner, nor in connection with the atomic energy program?

3. Are the appellants entitled to an award under the Atomic Energy Act when the five patent applications here involved are not useful in the production of fissionable material or the utilization of fissionable material or atomic energy, and where they have not been used by the Atomic Energy Commission, nor in connection with the atomic energy program?

4. Are the two members of the Patent Compensation Board of the Atomic Energy Commission, Mr. Casper W. Ooms and Mr. John V. L. Hogan, disqualified to act on appellants' case when before the Atomic Energy Commission?

(1)

INDEX

	Page
Statement.....	1
Summary of Argument.....	4
Argument:	
I. Fletcher Patent No. 1,715,283 Does Not Afford a Basis for Recovery Under the Atomic Energy Act.....	4
II. Fletcher et al. Patent No. 2,060,005 Does Not Afford a Basis for Recovery Under the Atomic Energy Act.....	6
III. The Five Fletcher et al. Application Do Not Afford a Basis for Recovery Under the Atomic Energy Act.....	7
IV. The Patent Compensation Board was Fully Competent to Act on Apellants' Case.....	8
Conclusion.....	9

OFFICE OF GENERAL COUNSEL APPENDIX

Statutes:	
Atomic Energy Act of 1946, Public Law 585, Chapter 724, 79th Congress, 2d Session	
Section 3.....	10
Section 11.....	11
Section 13 (a).....	15
Patent Laws, U. S. C., Title 35:	
Section 33 (R. S. 4888).....	16
Section 36 (R. S. 4893).....	16
Proceedings:	
Testimony of—	
William A. Fletcher.....	17
Cyrus D. Backus.....	17
Dr. Ralph Johnson.....	18
John A. Derry.....	31
Patent Compensation Board Ruling on Exceptions.....	38
Exhibit 26, Excerpts from Decisions of Board of Appeals Dated August 4 and September 22, 1949, Concerning Application Serial No. 614,880.....	39
Exhibit D, Page 3 of National Bureau of Standards Bulletin.....	40

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 10,587

NELLIE PAULINE FLETCHER AND WILLIAM ARTHUR FLETCHER,
APPELLANTS

v.

UNITED STATES ATOMIC ENERGY COMMISSION, APPELLEE

BRIEF FOR APPELLEE

STATEMENT

1. This case has its inception on September 10, 1948, when appellants filed with the Atomic Energy Commission an "Application for Reasonable Royalty Fee, Just Compensation, and the Grant of Award for Patents, Inventions, and Discovery, under Patent Law 585, 79th Congress" (Fletcher Appendix, pp. 41, 8).

2. The claim for compensation is based on (1) patent No. 1,715,283, issued May 28, 1929, to W. A. Fletcher, for "Communicating Circuits"; (2) patent No. 2,060,005, issued November 10, 1936, to Nellie P. Fletcher and William A. Fletcher, for a "Combined Light and Flower Holder"; and (3) five patent applications filed by William A. Fletcher *et al.*, bearing Ser. Nos. 147,811 and 382,329 (1925 Series), and 107,072, 425,024, and 614,880 (1935 Series).

Of the foregoing, patent No. 1,715,283 expired May 28, 1946, which is prior to August 1, 1946, the effective date of the Atomic Energy Act of 1946. The patent applications Ser. Nos. 147,811, 392,329, 107,072, and 425,025, all had the status of abandoned patent applications in the Patent Office many years prior to the passage of the Atomic Energy Act of 1946.

Patent application Ser. No. 614,880 was given a final rejection by the Patent Office Examiner on December 17, 1948, on the grounds that the disclosure was inoperative and lacking in utility and that the specification did not contain a description such as to be readily understood by one skilled in the art, all as required by Sec. 4888 R. S. and Sec. 4893 R. S. The Board of Appeals in the Patent Office affirmed the action of the Examiner in finally rejecting this application, and later the Board also denied a request for a reconsideration. This application now stands abandoned in the Patent Office. (Fletcher Appendix, pp. 12-20; Office of General Counsel Appendix, p. 39; Exhibits 1-8).

3. After due notice and compliance with the General Rules of Procedure of the Atomic Energy Commission (13 F. R. 3457; Fletcher Appendix, p. 40), appellants' application came on for hearing before the Patent Compensation Board.

At the hearings before this Board, which were held on May 17 and October 11, 1949, appellants were represented by counsel. Under the Rules of Procedure governing cases before the Board, the Office of the General Counsel is the other party to the case. Witnesses were produced by each side, and lengthy cross-examination was permitted. In addition, appellants were permitted to file a supplemental affidavit followed by proposed findings of fact (Fletcher Appendix, p. 121).

Upon consideration of the entire record, including all testimony, exhibits, affidavits and proposed findings of fact, the Patent Compensation Board prepared proposed findings of fact which were submitted to appellants. The findings were to the effect that no valid claim for reasonable royalty fee, just compensation, or the grant of an award, was proven and that the application of appellants for compensation was denied.

In due course, appellants filed exceptions to these proposed findings of the Board. Contrary to appellants' assertion, the Patent Compensation Board ruled on each of these exceptions, in accordance with the Commission's Rules, and this occurred on March 1, 1950, when the Board overruled all exceptions of the appellants and released its proposed findings as the final action of the Atomic Energy Commission (84 USPQ 386; Fletcher Appendix, p. 134; OGC Appendix, p. 38).

4. Appellants next filed in this Court a "Petition for Judicial Review," asking the Court to set aside the March 1, 1950, findings of the Patent Compensation Board denying appellants "a reasonable royalty, just compensation and the grant of an award as provided for in Title 42, United States Code 1811" (Fletcher Appendix, p. 2; OGC Appendix, p. 11).

5. Under Sec. 11 (e) (4) of the Atomic Energy Act, this Court has unquestioned jurisdiction of an appeal insofar as it relates to the denial of "a reasonable royalty fee" and "an award." This section directs the Commission to file a transcript of the entire record, and the Court is given "exclusive jurisdiction upon the record certified to it to affirm the determination in its entirety or set it aside and remand it to the Commission for further proceedings."

But if the Commission's determination of "just compensation" is unsatisfactory, then, under Sec. 13 (a) of the Atomic Energy Act, suit is authorized in the Court of Claims or in a District Court (OGC Appendix, p. 15).

The Court of Appeals thus does not ordinarily have jurisdiction of appeals from a determination of "just compensation" founded on patents. Whether this Court has jurisdiction of such an appeal, when, as here, it is combined with an appeal from a determination denying "an award," is questionable. But since this Court has jurisdiction of the instant appeal insofar as it is based upon the denial of "an award," it may well be contended that the Court's jurisdiction extends to the entire case on a theory analogous to that of *Hurn et al. v. Oursler et al.*, 289 U. S. 238, in order to prevent the splitting of appeals from determinations of the Patent Compensation Board when, as here, both an "award" and "just compensation" are involved in the trial of a single case.

SUMMARY OF ARGUMENT

1. Fletcher patent No. 1,715,283 does not afford a basis for recovery under the Atomic Energy Act. The circuits disclosed and claimed in this patent have not been used by the Atomic Energy Commission, nor have they been used in the conduct of research pursuant to Sec. 3 of the Act. In particular, the radio proximity fuse disclosed in the National Bureau of Standards Technical News Bulletin (Fletcher Ex. D) does not constitute an infringement of this patent, all as fully established by competent testimony.

2. Fletcher patent No. 2,060,005 does not afford a basis for recovery under the Atomic Energy Act. This patent, which is directed to a "Combined Light and Flower Holder," is not useful in the production of fissionable material or in the utilization of fissionable material or atomic energy; nor has it been used by the Atomic Energy Commission in any manner, all as fully established by competent testimony.

3. The five Fletcher et al. applications do not afford a basis for recovery under the Atomic Energy Act. The subject matter of these applications, as represented by the alleged continuation-in-part Ser. No. 614,880, is "meaningless and without sense." These applications are not useful in the production of fissionable material or the utilization of fissionable material. The devices and methods disclosed therein have not been used by the Atomic Energy Commission or in the atomic energy program. They afford no valid claim for determining a reasonable royalty, just compensation, or for the grant of an award, all as fully established by competent testimony.

4. None of the members of the Patent Compensation Board is disqualified to act on appellants' case.

ARGUMENT**I**

Fletcher patent No. 1,715,283 does not afford a basis for recovery under the Atomic Energy Act

1. This patent expired on May 28, 1946, before the effective date of the Atomic Energy Act (August 1, 1946). The response filed in the Office of the General Counsel raised the

question whether the Act could apply to a patent which had wholly expired prior to the date of enactment, but the Board found it unnecessary to rule on this question in view of its determination on the facts.

2. As to appellant's allegation that this patent is infringed by the circuit labeled "oscillator detector" of the radio proximity fuse disclosed on page 3 of the National Bureau of Standards Technical News Bulletin (Fletcher Ex. D), the Patent Compensation Board correctly found that the elements of the claims of this patent are not found in said proximity fuse circuit, and that there was no infringement (Fletcher Appendix, p. 134, Findings 4-19; OGC Appendix, p. 40).

The experts of the Office of the General Counsel correctly testified that the accused circuit did not use the rectifier *P*, as required by claims 1, 2, and 3 of patent No. 1,715,283; nor did the accused circuit use the telephone receivers required by claim 2 of this patent; nor did the circuit use the potentiometer *m* required by claim 3 of the patent (OGC Appendix, Johnson, pp. 25-29). Even appellants' witness Backus failed to point out any rectifier in the accused circuit of Exhibit D.

In fact, the Office of the General Counsel's experts clearly established that the circuits disclosed and claimed in this Fletcher patent have not been used by the Atomic Energy Commission, or its predecessor, the Manhattan Engineer District; nor used in the conduct of research pursuant to Sec. 3 of the Atomic Energy Act (Fletcher Appendix, p. 134, Finding 6; OGC Appendix, Derry, pp. 33-38; Johnson, p. 25).

The witnesses of the Office of the General Counsel, Dr. Ralph Johnson and John Derry, are thoroughly qualified to testify as fact and as expert witnesses in this case, and their qualifications need not be here detailed (OGC Appendix, Johnson, pp. 18-22; Derry, pp. 31-33).

Appellants' assertion that these expert witnesses are disqualified to testify because of "Public Law 404, * * * and War Department Regulations 824 and A. R. 380-5," is completely lacking in merit.

Clearly, the expired Fletcher patent No. 1,715,283 does not afford a basis for recovery under the Atomic Energy Act.

II

Fletcher et al. Patent No. 2,060,005, does not afford a basis for a recovery under the Atomic Energy Act

1. The title of this patent is "Combined Light and Flower Holder." In the patent, a transparent member 19 is positioned between a lamp 3 and flowers 18 to protect the latter from the heat of the lamp (Fletcher Appendix, p. 134, Findings 21-25).

Appellants' assertion that the "light and flower holder" of the patent has any relation to the Atomic Energy Act is completely unfounded.

The Patent Compensation Board correctly found on the basis of the evidence presented, that this patent is not useful in the production of fissionable material or in the utilization of fissionable material or atomic energy or to the atomic energy program; and, moreover, that it does not utilize, nor is it essential in the utilization of fissionable material or atomic energy (Fletcher Appendix, p. 134, Finding 27).

The Patent Compensation Board further correctly found that the devices and methods illustrated and claimed in this patent have not been used by the Atomic Energy Commission, or its predecessor, the Manhattan Engineer District, nor have the devices and methods of this patent been used in the conduct of research in the fields specified in Sec. 3 of the Atomic Energy Act (Fletcher Appendix, p. 134, Finding 26).

The Board further correctly found that none of the claims of this patent has been infringed by the Commission, or its predecessor, the Manhattan Engineer District, and, in particular, that none of the claims has been infringed in the conduct of research and development in the fields specified in Sec. 3 of the Atomic Energy Act (Fletcher Appendix, p. 134, Finding 28). These findings are fully supported by the testimony of the witnesses Dr. Ralph Johnson and John Derry (OGC Appendix, Johnson, pp. 22-23, 30-31; Derry, pp. 33-38).

Accordingly, it is clear that Fletcher et al. patent No. 2,060,005 does not afford a basis for recovery under the Atomic Energy Act.

III

The five Fletcher et al. applications do not afford a basis for recovery under the Atomic Energy Act

The appellants' claim here is based on four abandoned patent applications, Ser. Nos. 147,811, 382,329, 107,072, and 425,024; and a fifth patent application Ser. No. 614,880 alleged to be a continuation-in-part of the four abandoned applications (Fletcher Appendix, pp. 14-20; OGC Appendix, pp. 17, 39; Exhibits 5-8).

Appellant William A. Fletcher testified that the fifth application Ser. No. 614,880 "is a continuation-in-part all through my work, my applications in the Patent Office" and that this application "was the accumulation of all the six prior applications" (OGC Appendix, p. 17). This application therefore may be considered as illustrative of the four other Fletcher applications here in suit.

As previously stated, the patent application Ser. No. 614,880 was finally rejected by the Patent Office Examiner on the grounds (1) that the disclosure of the application was not understandable by one skilled in the art, as required by Sec. 4888 R. S.; (2) that the disclosure of the application lacked utility, as required by Sec. 4893 R. S.; and (3) that the disclosure was inoperative. The decision of the Patent Office Examiner was approved by the Board of Appeals in the Patent Office, and its decision was reaffirmed on a petition for rehearing. The application now stands abandoned in the Patent Office (OGC Appendix, pp. 39; Exhibit 5).

Dr. Johnson is in complete agreement with the decision of the Patent Office as to application Ser. No. 614,880. He testified that it was "meaningless and without sense," and, moreover, that it contained no ideas or information useful to the Atomic Energy Commission (OGC Appendix, Johnson, pp. 23-24, 29-30).

The Patent Compensation Board, after considering all of the evidence, correctly found that application Ser. No. 614,880, as well as the four other abandoned applications here in suit, contains no comprehensible teaching sufficient to enable one skilled in the art to make or compound or use the same (Fletcher Appendix, p. 134, Finding 32).

The Patent Compensation Board also correctly found that the five Fletcher et al. applications here in suit are not useful in the production of fissionable material or in the utilization of fissionable material or atomic energy or to the atomic energy program; and it further found that these applications do not utilize nor are they essential in the utilization of fissionable material or atomic energy (Fletcher Appendix, p. 134, Finding 35; OGC Appendix, Derry, pp. 33-38).

The Patent Compensation Board further correctly found that the devices and methods illustrated and claimed in the five Fletcher et al. applications have not been used by the Atomic Energy Commission, or its predecessor, the Manhattan Engineer District; nor have said devices and methods been used in the conduct of research under Sec. 3 of the Atomic Energy Act (Fletcher Appendix, p. 134, Finding 36; OGC Appendix, Derry, pp. 33-38).

Accordingly, the Patent Compensation Board correctly found that the five Fletcher et al. applications in suit failed to disclose any inventions or discoveries that can form the basis of an allowable claim under the Atomic Energy Act; and that no valid claim for determination of a reasonable royalty, just compensation or for the grant of an award, has been proven (Fletcher Appendix, p. 134, Findings 37-38).

IV

The Patent Compensation Board was fully competent to act on appellants' case

Appellants argue (their brief, p. 68) that the "two members of the Patent Compensation Board, Mr. Ooms, a former Commissioner of Patents, and Mr. Hogan, former Consultant to the Office of Scientific Research and Development * * * should have disqualified themselves pursuant to Public Law 404, approved June 1, 1946," and that Chairman Ooms "admitted a disqualified interest."

Appellants' argument is completely lacking in merit. Neither Public Law 404, nor any other law, disqualifies these Board members. To say that Mr. Hogan is disqualified because he had previously served as a consultant to the Office of Scientific Research and Development, is frivolous in the extreme.

Equally frivolous is the objection to Mr. Ooms. There is no satisfactory ground for suggesting that Mr. Ooms was disqualified nor are there any facts which would raise a question as to the propriety of his sitting in the case.

It may be noted that patents Nos. 1,715,283 and 2,060,005 issued many years prior to July 20, 1945, the date when Mr. Ooms commenced his tenure of office as Commissioner of Patents. It is also noted that four of the five Fletcher et al. applications stood abandoned prior to the beginning of Mr. Ooms' tenure of office.

As to patent application Ser. No. 614,880, this was still under prosecution when Mr. Ooms' tenure terminated on September 9, 1947. This application was not finally rejected and the appeals to the Board of Appeals in the Patent Office did not occur until subsequent to Mr. Ooms' departure on September 9, 1947. There is not the slightest evidence that Mr. Ooms ever had any personal contact with any of these Fletcher applications in the Patent Office.

Furthermore, appellants' claim of disqualification is a mere afterthought and was not raised until the trial of the case had been completed. They raised no objection to either Mr. Ooms or Mr. Hogan throughout the entire presentation of the evidence; nor was objection made in appellants' proposed findings of fact which were submitted subsequent to the hearings before the Patent Compensation Board (Fletcher Appendix, p. 121). They are now estopped to make an issue of the point.

From the foregoing, it is clear that Mr. Hogan and Mr. Ooms were fully competent to sit on the Patent Compensation Board and act on appellants' case when before the Atomic Energy Commission.

CONCLUSION

The findings of fact of the Patent Compensation Board are supported by substantial evidence and are conclusive.

The appellants do not have a valid claim under the Atomic Energy Act, and the determination made by the Commission through the action of the Patent Compensation Board should be affirmed.

Respectfully submitted.

H. L. GODFREY,

Department of Justice, Washington 25, D. C.,

Attorney for Appellee.

Of Counsel:

JOSEPH VOLPE, JR.,

General Counsel,

United States Atomic Energy Commission.

BENNETT BOSKEY,

Deputy General Counsel.

ROLAND A. ANDERSON,

Chief, Patent Branch.

HARMON S. POTTER,

Attorney.

OFFICE OF THE GENERAL COUNSEL APPENDIX

Atomic Energy Act of 1946—[Public Law 585—79th Congress]—[Chapter 724—2d Session]

SEC. 3. (a) Research Assistance.—The Commission is directed to exercise its powers in such manner as to insure the continued conduct of research and development activities in the fields specified below by private or public institutions or persons and to assist in the acquisition of an over-expanding fund of theoretical and practical knowledge in such fields. To this end the Commission is authorized and directed to make arrangements (including contracts, agreements, and loans) for the conduct of research and development activities relating to—

(1) nuclear processes;

(2) the theory and production of atomic energy, including processes, materials, and devices related to such production;

(3) utilization of fissionable and radioactive materials for medical, biological, health, or military purposes;

(4) utilization of fissionable and radioactive materials and processes entailed in the production of such materials for all other purposes, including industrial uses; and

(5) the protection of health during research and production activities.

The Commission may make such arrangements without regard to the provisions of section 3709 of the Revised Statutes (U. S. C., title 41, sec. 5) upon certification by the Commission that such action is necessary in the interest of the common defense and security, or upon a showing that advertising is not reasonably practicable, and may make partial and advance payments under such arrangements, and may make available for use in connection therewith such of its equipment and facilities as it may deem desirable. Such arrangements shall contain such provisions to protect health, to minimize danger from explosion and other hazards to life or property, and to require the reporting and to permit the inspection of work performed thereunder, as the Commission may determine; but shall not contain any provisions or conditions which prevent the dissemination of scientific or technical information, except to the extent such dissemination is prohibited by law.

(b) Research by the Commission.—The Commission is authorized and directed to conduct, through its own facilities, activities and studies of the types specified in subsection (a) above.

SEC. 11. (a) Production and Military Utilization.

(1) No patent shall hereafter be granted for any invention or discovery which is useful solely in the production of fissionable material or in the utilization of fissionable material or atomic energy for a military weapon. Any patent granted for any such invention or discovery is hereby revoked, and just compensation shall be made therefor.

(2) No patent hereafter granted shall confer any rights with respect to any invention or discovery to the extent that such invention or discovery is used in the production of fissionable

material or in the utilization of fissionable material or atomic energy for a military weapon. Any rights conferred by any patent heretofore granted for any invention or discovery are hereby revoked to the extent that such invention or discovery is so used, and just compensation shall be made therefor.

(3) Any person who has made or hereafter makes any invention or discovery useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for a military weapon shall file with the Commission a report containing a complete description thereof, unless such invention or discovery is described in an application for a patent filed in the Patent Office by such person within the time required for the filing of such report. The report covering any such invention or discovery shall be filed on or before whichever of the following is the latest: (A) The sixtieth day after the date of enactment of this Act; (B) the sixtieth day after the completion of such invention or discovery; or (C) the sixtieth day after such person first discovers or first has reason to believe that such invention or discovery is useful in such production or utilization.

(b) Use of Inventions for Research.—No patent hereafter granted shall confer any rights with respect to any invention or discovery to the extent that such invention or discovery is used in the conduct of research or development activities in the fields specified in section 3. Any rights conferred by any patent heretofore granted for any invention or discovery are hereby revoked to the extent that such invention or discovery is so used, and just compensation shall be made therefor.

(c) Nonmilitary Utilization.—

(1) It shall be the duty of the Commission to declare any patent to be affected with the public interest if (A) the invention or discovery covered by the patent utilizes or is essential in the utilization of fissionable material or atomic energy; and (B) the licensing of such invention or discovery under this subsection is necessary to effectuate the policies and purposes of this Act.

(2) Whenever any patent has been declared, pursuant to paragraph (1), to be affected with the public interest—

(A) The Commission is hereby licensed to use the invention or discovery covered by such patent in performing any of its powers under this Act; and

(B) Any person to whom a license has been issued under section 7 is hereby licensed to use the invention or discovery covered by such patent to the extent such invention or discovery is used by him in carrying on the activities authorized by his license under section 7.

The owner of the patent shall be entitled to a reasonable royalty fee for any use of an invention or discovery licensed by this subsection. Such royalty fee may be agreed upon by such owner and the licensee, or in the absence of such agreement shall be determined by the Commission.

(3) No court shall have jurisdiction or power to stay, restrain, or otherwise enjoin the use of any invention or discovery by a licensee, to the extent that such use is licensed by paragraph (2) above, on the ground of infringement of any patent. If in any action for infringement against such licensee the court shall determine that the defendant is exercising such license, the measure of damages shall be the royalty fee determined pursuant to this section, together with such costs, interest, and reasonable attorney's fees as may be fixed by the court. If no royalty fee has been determined, the court shall stay the proceeding until the royalty fee is determined pursuant to this section. If any such licensee shall fail to pay such royalty fee, the patentee may bring an action in any court of competent jurisdiction for such royalty fee, together with such costs, interest, and reasonable attorney's fees as may be fixed by the court.

(d) Acquisition of Patents.—The Commission is authorized to purchase, or to take, requisition, or condemn, and make just compensation for, (1) any invention or discovery which is useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for a military weapon, or which utilizes or is essential in the utilization of fissionable material or atomic energy, or (2) any patent or patent application covering any such invention or discovery. The Commissioner of Patents shall notify the Commission of all applications for patents heretofore or hereafter filed which in his

opinion disclose such inventions or discoveries and shall provide the Commission access to all such applications.

(e) Compensation Awards, and Royalties.—

(1) Patent Compensation Board.—The Commission shall designate a Patent Compensation Board, consisting of two or more employees of the Commission, to consider applications under this subsection.

(2) Eligibility.—

(A) Any owner of a patent licensed under subsection (c) (2) or any licensee thereunder may make application to the Commission for the determination of a reasonable royalty fee in accordance with such procedures as it by regulation may establish.

(B) Any person seeking to obtain the just compensation provided in subsections (a), (b), or (d) shall make application therefor to the Commission in accordance with such procedures as it may by regulation establish.

(C) Any person making any invention or discovery useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for a military weapon who is not entitled to compensation therefor under subsection (a) and who has complied with subsection (a) (3) above may make application to the Commission for, and the Commission may grant, an award.

(D) Any person making application under this subsection shall have the right to be represented by counsel.

(3) Standards.—

(A) In determining such reasonable royalty fee, the Commission shall take into consideration any defense, general or special, that might be pleaded by a defendant in an action for infringement, the extent to which, if any, such patent was developed through federally financed research, the degree of utility, novelty, and importance of the invention or discovery, and may consider the cost to the owner of the patent of developing such invention or discovery or acquiring such patent.

(B) In determining what constitutes just compensation under subsection (a), (b), or (d) above, the Commission shall take into account the considerations set forth in paragraph (A) above, and the actual use of such invention or discovery, and may determine that such compensation be paid in periodic payments or in a lump sum.

(C) In determining the amount of any award under paragraph (2) (C) of this subsection, the Commission shall take into account the considerations set forth in paragraph (A) above, and the actual use of such invention or discovery. Awards so made may be paid by the Commission in periodic payments or in a lump sum.

(4) Judicial Review.—Any person aggrieved by any determination of the Commission of an award or of a reasonable royalty fee may obtain a review of such determination in the Court of Appeals for the District of Columbia by filing in such court, within thirty days after notice of such determination, a written petition praying that such determination be set aside. A copy of such petition shall be forthwith served upon the Commission, and thereupon the Commission shall file with the court a certified transcript of the entire record in the proceeding, including the findings and conclusions upon which the determination was based. Upon the filing of such transcript the court shall have exclusive jurisdiction upon the record certified to it to affirm the determination in its entirety or set it aside and remand it to the Commission for further proceedings. The findings of the Commission as to the facts, if supported by substantial evidence, shall be conclusive. The court's judgment shall be final, subject, however, to review by the Supreme Court of the United States upon writ of certiorari on petition therefor under section 240 of the Judicial Code (U. S. C., title 28, sec. 347), by the Commission or any party to the court proceeding.

SEC. 13. (a) The United States shall make just compensation for any property or interests therein taken or requisitioned pursuant to sections 5 and 11. The Commission shall determine such compensation. If the compensation so determined is unsatisfactory to the person entitled thereto, such

person shall be paid 50 per centum of the amount so determined, and shall be entitled to sue the United States in the Court of Claims or in any district court of the United States in the manner provided by sections 24 (20) and 145 of the Judicial Code to recover such further sum as added to said 50 per centum will make up such amounts as will be just compensation.

Patent Law—35 U. S. C. 33; R. S. 4888.

Before any inventor or discoverer shall receive a patent for his invention or discovery he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most clearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor. No plant patent shall be declared invalid on the ground of noncompliance with this section if the description is made as complete as is reasonably possible. (R. S. sec. 4888; Mar. 3, 1915, ch. 94, sec. 1, 38 Stat. 958; May 23, 1930, ch. 312, sec. 2, 46 Stat. 376.)

Patent Law—35 U. S. C. 36; R. S. 4893.

On the filing of any such application and the payment of the fees required by law, the Commissioner of Patents shall cause an examination to be made of the alleged new invention or discovery; and, if on such examination it shall appear that the claimant is justly entitled to a patent under the law, and that the same is sufficiently useful and important, the Commissioner shall issue a patent therefor.

PROCEEDINGS

* * * * *

WILLIAM ARTHUR FLETCHER was called as a witness, and having been first duly sworn, was examined and testified as follows:

* * * * *

The WITNESS. Therefore, this particular application [Ser. No. 614,880] is a continuation in part all through my work, my applications in the Patent Office.

* * * * *

By Mr. JACOBI:

Q. Did I understand you to say this pending application, Exhibit 5, Serial No. 614,880, was the culmination of a number of previous applications?

A. The 614,880 was the accumulation of all the six prior applications.

* * * * *

CYRUS D. BACKUS was called as a witness, and having been first duly sworn, was examined and testified as follows:

* * * * *

Mr. BOSKEY. Mr. Chairman, I should like to inquire of Mr. Jacobi whether he is offering the testimony of this witness as an expert on the subject of atomic energy. If so, I should like to observe that the qualifications of this witness in that particular field have been in no way demonstrated and that while we will not object to the introduction of the testimony, we assume that the Board will take that into account in evaluating it.

Chairman Ooms. The witness has just disclaimed being an expert in atomic energy as I understand his statement.

Mr. JACOBI. Very definitely, * * *

* * * * *

DR. RALPH P. JOHNSON was called as a witness, and having been first duly sworn, was examined and testified as follows:

Direct examination by Mr. BOSKEY:

Q. Mr. Johnson, will you state to the record your full name, your address and your age?

A. My name is Ralph P. Johnson. My address is 3709 North Glebe Road, Arlington, Virginia. My age is 39.

Q. Would you state also your present employment?

A. I am employed by the Atomic Energy Commission as Deputy Director of the Division of Research.

Q. Would you describe in a general way, Dr. Johnson, the functions of the division of research in the organization of the Commission?

A. The Division of Research is responsible for the supervision of the Commission's program of research in the physical sciences, that is, the sciences exclusive of the sciences of biology and medicine. We are responsible for initiating programs of research and carrying them through and inspecting the results. The research goes on in our own laboratories and at a number of other places that are under contract with the Commission. The research covers a wide variety of fields corresponding to the variety of the Commission's production and manufacturing interests.

Q. Dr. Johnson, are you a physicist by training?

A. Yes, I am.

Q. Where did you receive your scientific training?

A. My postgraduate work at the University of Virginia and at M. I. T.

Q. Did you receive a postgraduate degree in the course of that work?

A. One from each place, yes.

Q. What degrees were they?

A. Degree of Master of Arts from the University of Virginia in 1930 and Doctor of Philosophy from M. I. T. in 1936.

Q. Would you describe briefly the field in which you did your graduate work?

A. The work for the Masters Degree was in the field of spectroscopy. My thesis subject was "Temperature control of a diffraction grating." My thesis work for doctors degree was in

the field of physical electronics or emission of electrons by metallic surfaces. The title of the thesis, as I recall, was "Some Surface Properties of Tungsten Filaments."

Q. After completing your graduate training, would you indicate briefly the employments which you have had?

A. I was employed from June 1936 until June of 1947 by the General Electric Company as a research physicist in the research laboratory at Schenectady, New York.

Q. What was the nature of your duties in that employment?

A. Research in the fields of physical electronics, electron emission, gas discharges, diffraction of electrons by matter, fluorescent materials, cathode ray tubes.

Q. After leaving the General Electric Company, what employment did you next have?

A. I should explain that when I first left the company it was on a leave of absence with the prospect of returning. That was in the middle of 1943. At that time I became an employee of the Army Air Force and was an adviser to the Commanding General of the Eighth Fighter Command for a period of a year and a half until 1944 until the end of 1944. At that time I returned to employment with the General Electric Company.

Q. In a general way and without divulging any classified information, would you indicate the nature of your duties with the Eighth Air Force?

A. Studies of the operation of the Eighth Fighter Command and advice and recommendations on such things as gunnery, fighter bombing choice of different types of ammunition. The Eighth Fighter Command, I will remind you, is the command which furnished the fighter support for the bomber operations over Germany.

Q. This work then was essentially scientific and technical work?

A. I should say so, yes.

Q. When did you begin your connection with the Atomic Energy Commission program?

A. At the very beginning of the calendar year of 1945, when I returned to this country and to employment with the General Electric Company. The company at that time had a subcontract with the University of California and was supplying a

small group of research people, about six or eight in number, as I recall, to work the project at the radiation laboratory of the University of California in Berkeley. I went there on the first of January 1945 and continued there until the early part of August of that year.

Q. What type of work were you doing at the Berkeley radiation laboratory? Again in a general way.

A. Research in process improvement on the electromagnetic method of isotope separation.

Q. After leaving Berkeley what did you do next?

A. I returned then to Schenectady, and until June of 1946 I continued the work that I had done there, the same type of work that I had done prior to my leaving in the middle of 1943.

Q. In June of 1946 did you leave the General Electric Company?

A. I did, again on a leave of absence to become an employee of the Air Force, again with the prospect of returning to the company.

Q. What was the nature of your duties with the Air Force on this second occasion?

A. I was chief scientific adviser to the deputy chief of air staff for research and development, an office which I believe doesn't now exist in the Air Force. At that time it was held by General Lemay.

Q. How long did you remain in that position?

A. I was there for one year, until June of 1947.

Q. Would you describe very briefly the kinds of problems with which you had to deal in that employment?

A. Examining proposals for research on behalf of the Air Force, supervising at the staff level, as it was called, the operations of the Air Force in the field of research and development. I might mention the activities at Wright Field and through contracts made by Wright Field, activities in electronics with the Watson Laboratories and the Cambridge Field Station.

Q. Did you come directly from the Air Force to the Commission?

A. I did; yes.

Q. What was the approximate date on which you came to the Commission?

A. The first or second or third of June 1947.

Q. You have been Deputy Director of the Research Division since that time?

A. I have; yes.

Q. Would you describe in a general way the nature of your duties as Deputy Director of Research?

A. My duties are the same as those of Director. We share the responsibilities that I described earlier of supervision of the entire research program of the Commission, exclusive of research in biology and medicine.

Q. Have you during the course of your scientific career written any articles for professional journals?

A. Yes; I have. I have written and published between 10 and 20, around 15 articles on a variety of subjects—thermionic emission, fluorescence, the theory of the solid state. These have appeared chiefly in the Physical Review, the Journal of the Optical Society, and one or two in the Review of Scientific Instruments, as I now recall them.

Q. Are you a member of any professional society?

A. I am a member of the American Physical Society and have been a Fellow of the Society for some years. I am a member of the American Society for X-ray and Electron Diffraction.

Q. During the course of your duties with the Commission, Dr. Johnson, has it been part of your job from time to time to visit the various installations of the Commission?

A. Yes.

Q. Have you in this way visited the major laboratories and other installations at which the atomic energy program is carried on?

A. I should say so, almost exhaustively.

Q. Are you generally familiar with the nature of the projects under way at these installations and also under way at the installations of contractors with whom the Commission contracts for research and development work?

A. Yes.

Q. It is a general responsibility of the Division of Research to maintain a continuing familiarity with the research and

development activities throughout the entire atomic energy program?

A. Yes; it is.

Q. During the course of your work with the Atomic Energy Commission, have you had occasion from time to time to review research proposals of one type or another that have come before the Commission?

A. That is a continuing part of my duties.

* * * *

Q. Dr. Johnson, I would like to show you a document marked "Office of General Counsel, Exhibit No. 3," which has been introduced in this proceeding and which is a copy of patent 2,060,005. Would you examine that document? Have you previously examined that document, Dr. Johnson?

A. Yes; I have.

Q. Have you examined it from the standpoint of ascertaining whether it has any relation, direct or indirect, to the atomic energy program?

A. Yes.

Q. What conclusion have you reached concerning that?

A. That it has no relation to the atomic energy program as I know it.

Q. Have you found in that patent, Dr. Johnson, any invention or any teaching which is useful either solely or in part in the production of fissionable material?

A. No; I have not.

Q. Have you found in that patent, Dr. Johnson, any invention or any teachings which are useful either solely or in part in the utilization of fissionable material or atomic energy for a military weapon?

A. No.

Q. Dr. Johnson, are you acquainted with the fields of research and development activity set forth in section 3 (a) of the Atomic Energy Act?

A. Yes.

Q. Is a large part of the work of the Division of Research devoted to securing the proper conduct of the Commission's program in this area?

A. Yes; it is.

Q. Have you considered this patent from the standpoint of ascertaining whether it contains any invention or teaching which is or in any way would be likely to be used in the conduct of research and development activities in the field specified in Section 3 of the Act?

A. Yes; I have considered that, and reached the conclusion that it is highly improbable.

Q. Is there anything in that patent which has in fact been used in any of those research and development activities?

A. Not to my knowledge.

Q. Do you consider that there is any substantial likelihood that anything in the patent ever would be so used?

A. I think it most unlikely.

Q. Have you found anything in that patent which constitutes an invention or a teaching which might in any way be useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for military weapons or which utilizes or is essential in the utilization of fissionable material or atomic energy?

A. Would you repeat that, please? I want to make sure.

Q. The question, Dr. Johnson, was a question based on section 11 (d) of the Atomic Energy Act. My question was this: Have you found in this patent any invention or teaching which is useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for military weapons, or which utilizes or is essential in the utilization of fissionable material or atomic energy?

A. No.

Q. Have you also in connection with the preparation of this case considered the file wrapper history in application Serial No. 614,880, which is Office of General Counsel Exhibit No. 5 in this case?

A. Yes, I have examined this wrapper.

Q. Have you found in that application any teaching or any invention which you think might be in any way useful to the Atomic Energy program?

A. My answer to that will have to be no, Mr. Boskey, I think I just explained that it has been very difficult for me to find any comprehensible teaching in this application.

Q. Have you examined both the specifications and the drawings in the application?

A. Yes, I have.

Q. Has that examination enabled you to find in it any idea of usefulness to the atomic energy program?

A. Again my answer is no. I found it, I would like to add, nearly impossible for me to lay hold to any idea in the thing. So far as I can tell, it is meaningless and without sense.

* * * * *

The above entitled matter came on for further hearing at 10:30 o'clock a. m., Tuesday, October 11, 1949.

* * * * *

Direct examination (Cont.) by Mr. BOSKEY:

Q. Dr. Johnson, have you examined in addition to the Serial 614880, the other three patent applications by the applicant which are in exhibit in this case?

A. Yes, I have.

Q. Does testimony which you have given concerning 614880 apply in substance also to those other three patent applications?

A. It does.

Q. In examining serial No. 614880 have you noted the objections made by the Patent Office Examiner in the course of the prosecution of the Patent Office?

A. Yes, I have.

Q. Were the grounds stated by the Patent Examiner among the grounds which led you to express the conclusion which you expressed in your testimony at the other hearing?

A. Yes.

Q. Have you in reconsidering these patent applications since the last hearing found any cause to modify any of the testimony that you then gave?

A. No.

Q. Are you still of the view that none of these patent applications has any possible relevance to the Atomic Energy Program?

A. To the best of my knowledge and belief, they are without possible application to the Atomic Energy Program.

Mr. BOSKEY. Mr. Chairman, the other item on which we wish Dr. Johnson to be examined is the communicating circuits

patent in order to complete the record. I am going to ask Mr. Potter to carry on that examination; by way of introduction I should like to ask only one or two questions.

By Mr. BOSKEY:

Q. Dr. Johnson, have you examined patent No. 1715283 together with its file wrapper history?

A. Yes, I have.

Q. As a result of that examination, have you ascertained any ground in your opinion for believing that that patent has in any way been used in the Atomic Energy Program?

A. No.

Mr. BOSKEY. I would now like Mr. Potter to continue the examination.

By Mr. POTTER:

Q. Dr. Johnson, you have testified that you have examined the Fletcher patent 1715283, which is the Commission's Exhibit No. 1; I hand you a copy of that patent. Will you please briefly describe the circuit which is disclosed in that patent?

A. Referring to the patent drawing, the circuit appears to be a one tube receiving circuit for radio signals. We have an antenna (A), and a ground (E) and between these following the language of the specifications, are two parallel circuits. One can be traced as including first from the antenna (A) the capacitor (C-1) variable, and in series with that the inductance (L-1), and thence to ground.

The other can be traced again from the antenna as including the variable capacitor (c-3) and thence in series the inductance (L-2) which has a mutual inductance designated here by (M) and association with the inductance (L-1) and then still in series, the headset or telephone (p) shunted by the fixed capacitor (c-4), and so on to ground.

Between these two parallel circuits is the vacuum tube (v) three electrode vacuum tube. The grid of the tube being connected in series with the, what appears to me to be a conventional grid capacitor, coupling capacitor, and shunted by a grid leak with the point between (c-1) and (L-1) of the first two parallel circuits that I mentioned, the plate being connected directly to the point between (c-3) and (L-2) of the second

of the parallel circuits that I mentioned, and the filament of the vacuum tube that is (f) in the tube being heated apparently by a battery (b), its temperature controlled by rheostat (r) and its potential fixed relative to ground by the setting of the sliding contact (c) on the potentiometer (m).

Another way equally valid of stating the role of the capacitor (c-3) which is variable is that it introduces a capacity feedback from the plate of the tube directly to the antenna.

Q. What is the function of the tube (V) in this circuit, as you understand it?

A. As I understand it from the specification, Mr. Potter, it is to supply voltages to the circuit. You will find in line 93, I believe, of the specifications, that the extent of amplification depends on certain things, and also upon the voltages supplied from the valve (v). It has been difficult for me to come to any conclusion in my own mind about what role the valve (v) would actually play in a circuit of this kind.

My difficulty arises from the fact that I find no well marked provision for providing a potential difference across the tube so as to insure a flow of electrons from the filament to the plate, a flow which would be controllable by potentials on the grid (g).

Q. Dr. Johnson, assuming the values for the plate voltage and the grid which are given in the specifications here on page 1, lines 103 to 106, would any useful amount of amplification be secured?

A. I would expect none. You refer to the passage "the plate (p) of the tube was found to operate at a positive potential of $1\frac{1}{2}$ volts with respect to the filament (f), the grid (g) of the tube was at a positive potential of 5.5 volts."

I would expect, I would see no reason for expecting any amplification of signals on the grid under those operating conditions.

Q. In your opinion will this circuit operate with the tube (V) removed from the circuit?

A. I should certainly have no prejudice against trying it.

Q. In that connection I call your attention to a statement which appears in the Commission's Exhibit 2, which is a certified a copy of the file wrapper and contents of Patent 1,715,283

on page 4 of paper No. 8, which is amendment (c), appears a statement that the valve could be removed from the circuit and the signal still received in the phones (P) thereby conclusively showing there is energy passage from antenna (A) to condenser.

Chairman OOMS. Can you give us the pencilled number?

Mr. POTTER. That is 44 at the bottom of the page. The passage to which I am referring appears in line 7 from the bottom and following.

By Mr. POTTER:

Q. Dr. Johnson, do you have any reason to disbelieve the statement which there appears that the valve (V) could be removed from the circuit and the signal still received?

A. Correct me if I am wrong in this: Is this a statement for the patentee?

Q. This is a statement which was made by the patentee's attorneys, Lyon and Lyon.

Chairman OOMS. Mr. Potter, I think it will facilitate Dr. Johnson's answer if he can have the page before him. It is rather difficult to carry that text in mind.

The WITNESS. You are asking my opinion of the statement here that, "This can be shown to be true by the fact that the valve (v) could be removed from the circuit and the signal received in the phones (p)?"

By Mr. POTTER:

Q. Yes, sir; do you have any reason to——

A. To limit it more closely, "the valve (v) could be removed from the circuit and the signal still received in the phones (p)." I have no reason to disbelieve that.

Q. Have you examined the references cited against patent No. 1,715,283 and listed in Exhibit 25?

A. Yes, I have.

Q. In your opinion, does the circuit in patent 1,715,283 represent any advance or improvement over the art as shown in that exhibit?

A. In my opinion, no.

Q. With reference to Applicant's Exhibit D, a copy of which I now hand you, will you please describe the oscillator detector circuit shown on page 3 of that exhibit?

A. This seems to me to be a fairly standard oscillator device for taking energy from the terminal (b+) and converting it into oscillating energy between the inductance at the very top of the drawing, and the capacitor which is shown in series with this inductance, the tube playing the role of initiating and maintaining these oscillations. I would expect that the antenna would, if the circuit constants are chosen appropriately so that the frequencies lie in the right range, radiate electromagnetic energy into space, and would also, as I understand the operation of radio proximity fuse, receive electromagnetic energy from space.

Q. Once oscillations begin, is it necessary to add energy from outside the circuit in order to maintain the oscillations?

A. Only energy of a DC shown supplied here at terminal (b+). No oscillating energy needs to be supplied. The circuit is self-oscillating, in other words.

Q. Would oscillations be desirable or undesirable in a circuit such as that disclosed in the Fletcher Patent 1,715,283?

A. This is entitled, "communicating circuits"; the object is stated to be "to provide a system for amplifying and rectifying oscillatory electrical energy" and so on "in which oscillations or regeneration may be effectively eliminated while at the same time the circuit amplifies the signal."

I suppose from the view of the patentee the presence of oscillations would be highly undesirable. As a general matter, in a radio receiver, oscillations, if you put them in for a purpose and control them, can be very usefully employed; if they appear themselves, they can be disastrous. Steps have to be taken to avoid them. They must either be controlled or avoided.

Q. Am I correct in understanding your testimony then to be that the circuit which is shown in the Applicant's Exhibit D is an oscillator and is designed to set up oscillations, whereas an object of the Fletcher patent as stated on the patent on page 1 is to effectively eliminate oscillations?

A. I would agree to that difference between the two.

Q. Turning again to the Applicant's Exhibit D, will that circuit operate with the tube removed?

A. No. The tube is an essential part of this circuit.

Q. With reference to Claim 1 of the Fletcher Patent, 1,715,283, on page 2, line 18, the claim calls for a rectifier in one of said circuits, said circuits being the plurality of parallel circuits mentioned earlier in the claim.

Do you find a rectifier in either of the circuits of the oscillator-detector, shown in Exhibit D?

A. The two circuits that you want me to see, that you asked me to see in Exhibit D, are those that were pointed out in the testimony of Mr. Backus, I suppose, one of them runs to the right from the midpoint of the inductance, and goes down somewhere, presumably to the (b+) terminal and the other goes to the left and thence to ground by capacitor and a resistor.

Q. That is correct.

A. I don't find any rectifier in either branch of that circuit.

Q. Turning to claim 2 of the patent, page 2, line 30, the claim calls for telephone receivers operating also as a rectifier in one of said circuits.

Do you find telephone receivers in either of the two circuits referred to in the oscillator detector circuit, Applicant's Exhibit D?

A. I find no telephone receivers anywhere in the drawing.

Q. With reference to claim 3 of the Patent 1,715,283 page 2 of the patent, line 47, the claim calls for a potentiometer. The entire phrase of reading "a trielectrode valve having its filament connected with one of said input leads through a potentiometer and having its grid and plate separately connected to portions of said parallel circuits." Do you find a potentiometer in the circuit shown in Applicant's Exhibit D?

A. I do not. On the contrary, I find the filament connected directly to earth.

* * * * *

By Mr. JACOBI:

Q. Did I understand you, Dr. Johnson, to state that your examination of the application serial 614,880 led you to believe that there is nothing therein which relates to atomic energy?

A. Which was 614,880?

Q. That is the pending application.

A. That is certainly my belief, and I think I did testify to that effect.

Q. Did I understand that you drew your conclusion by reason of the action of the Patent Office to that effect?

A. No, I don't believe I stated that I relied on that. I did not, in fact, rely on action of the Patent Office for that conclusion.

Q. You still believe, do you, that the application referred to which is the Commission's Exhibit No. 5, has nothing in it relating to atomic energy?

A. That is a rather broad question. I think I answered a somewhat more specific question that was put to me by Mr. Boskey as to whether I found in here any teaching or invention which in my opinion was likely to be of any utility in the production of fissionable material or in other activities connected with atomic energy. I said I did not.

Q. Would you say that the application has anything therein which relates in a broad way to atomic energy?

A. I find some words here which certainly are in use in discussions of atomic energy. In the page now before me I find the word "neutron," and "artificial radio active isotopes."

Q. Then of course you admit that there is some reference to atomic energy therein, is that correct?

A. Yes, yes.

Q. Now, with respect to Fletcher patent 2060005, which is Commission Exhibit No. 3, would you be willing to say that that application, or rather that patent did or did not relate in any way to atomic energy?

A. I find it very hard to believe that the patent discloses anything useful to the atomic energy enterprise.

Q. That isn't exactly the question. The question I asked does it in any way relate to atomic energy as you understand that term, atomic energy?

A. It may be, sir, that somewhere in the language here is an allusion to atomic energy. I do not find any relation to atomic energy in any substantive sense.

Q. You find no relation in that patent to atomic energy; that is your statement for this record, is that correct?

A. I find no substantive relation to atomic energy.

Q. Did you examine the file wrapper of that patent?

A. I think that I have.

Q. That would be Commission Exhibit 4.

A. It is among the Commission exhibits, and I will testify I have examined it.

* * * * *

JOHN ALVIN DERRY was called as a witness, and having been first duly sworn, was examined and testified as follows:

Direct examination by Mr. BOSKEY:

Q. Mr. Derry, would you state your full name for the reporter?

A. John Alvin Derry.

Q. Would you also state your present residence?

A. Washington, D. C., 2918 Tennyson Street, Northwest.

Q. Are you presently employed by the Atomic Energy Commission?

A. I am.

Q. In what capacity?

A. Coordinator of Special Assignments in the Division of Production.

Q. How long have you been associated with the Atomic Energy Program?

A. Since December 1942.

Q. Covering the period prior to that association would you state for the information of the Board your educational background?

A. I was born in Ohio and had my elementary school education in Ohio, and took my college training at Rose Polytechnic Institute at Terre Haute, Indiana, receiving a bachelor of science degree in electrical engineering; for a short period following my school education I was employed on outside construction work with the Ohio Bell Telephone Company. Then I was employed by the Pennsylvania Railroad Company on the electrification construction of the New York to Washington part of the system for a period of about six years, and one year following that operation of the electrified portion of the system.

I think, yes, it was in 1936 I took employment with the Rural Electrification Administration in the government, again in construction of rural distribution and transmission lines.

In 1942, in April, I was called to active duty, having had a reserve commission, and was assigned for duty in the Chief of Engineers office. In December of '42 was reassigned to the Manhattan Project, Manhattan Engineer District at Oak Ridge.

From that would you like to have me go on?

Q. I would like to have you state in some detail the nature of your duties in the Manhattan District, and then with the Commission.

A. Well, in the early days we were in a construction program at Oak Ridge. The first thing that I was employed on was priorities and expediting of critical materials for the construction of the plants. After I got that division started, I went over to the supervision of construction on the plutonium semi-works plant. After that was built and put into operation, I was moved to the electromagnetic separation plant on construction and operation again, also having some association with the gaseous diffusion separation plant which was under construction at that time.

In 1943 I was reassigned in Manhattan District to Washington, the Washington Headquarters office, under General Groves office, to maintain liaison of Washington headquarters with the Los Alamos Laboratory.

Q. Did that assignment, Mr. Derry, involve an intimate familiarity with the atomic weapons program?

A. Yes, yes, I was just going to say that the principal assignment was procurement and development of the weapon, testing and proving and operational delivery of the weapon. It took me to all of the associated laboratories, proving grounds and stations in Manhattan District that were engaged at the time in development of component parts of the weapon, and delivery of the weapon, testing, proving.

During the stages of construction of the production plants, of course it was necessary that I understand everything that was going into the plants to make sure that the specifications were being followed for the installation of the equipment.

Q. Did you remain with the Manhattan District for the balance of the war?

A. Yes. Well, I stayed, the war ended in 1945, and I stayed with the Manhattan District through 1946. I came with the Commission in February of 1947.

During the stage that I was in the Army, I was assigned as Secretary to the Joint Chiefs of Staff Evaluation Tests for the Bikini tests.

Q. Were you present at them?

A. I was. Then last year under the Commission's supervision I was present at part of the Eniwetok tests. During one short stage of my civilian period after I got out of the Army in August 1946, I was associated with the Military Liaison Committee in assisting them to get their organization set up. Then the Commission took over the operational control of the atomic energy project in January 1947, I was transferred to the General Manager's office, and became assistant to the General Manager in February 1947.

Q. During the period when you were assistant to the general manager, were there also times when you were acting general manager?

A. Yes, there were times when the general manager was out of town and he assigned me as acting general manager.

Q. Did your duties in that capacity require you to have a general familiarity with the programs of the Commission?

A. Yes, it did. It required that I visit the installations to understand the facilities that we had in operation, laboratories, production plants, as well as procurement stations.

Q. Is this limited to the weapons program?

A. That is not limited to the weapons program. This is general for all knowledge that was necessary to have.

Q. Would it include fields such as biology and medicine, and production?

A. Biology, medicine, production, general knowledge of what was going on in research, weapons, definitely, and reactors.

Q. How long have you been in the Production Division of the Commission?

A. Since September 1948, a year.

Q. Mr. Derry, in connection with this case, and at our request, have you examined the patents and file wrappers which have been introduced as exhibits in this proceeding?

A. These are Commission exhibits.

Q. These are the exhibits.

A. I have examined them.

Q. Specifically, have you examined the patent on communicating circuits which was discussed earlier this morning and its file wrapper history?

A. I examined them.

Q. Have you also examined the patent on combined light and flower holding, and its file wrapper and history?

A. I have examined that.

Q. Have you also examined the four file wrappers on the rejected patent application which we have been discussing?

A. I have examined them.

Q. Have you found in any of them, Mr. Derry, any teachings or invention which appeared to you to have any usefulness to the Atomic Energy Program?

A. So far as I am able to understand the applications, they have no application, so far as I am able to understand the patents; there is to my knowledge no application.

Mr. JACOBI. Did he finish his answer? I wanted to get that.

Mr. BOSKEY. Will you read it back?

(Answer read.)

By Mr. BOSKEY:

Q. By application do you mean application to atomic energy?

A. Application to atomic energy. I thought that was the question.

Q. Mr. Derry, have you found in any of them any teaching or invention which in your opinion is useful either solely or in part in the production of fissionable material or in the utilization of fissionable materials or atomic energy for a military weapon?

A. Again so far as I am able to understand them I could find no application.

Q. Mr. Derry, have you found in any of them any teaching or invention which is used in the conduct of any of the research development activities in the field specified in section 3 of the Atomic Energy Act, again within the limits of your knowledge and opinion?

A. Within my limits, no, I have not found any.

Q. Let me ask you one further question along this line, Mr. Derry. Have you found in any of them any teaching or invention which is useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for military weapon, or which utilizes or is essential in the utilization of fissionable material or atomic energy?

A. I could find no application for that use as described.

Q. You found nothing to suggest to you that it would have any application for any of those uses?

A. Exactly. I found nothing that I could find that had any application for military weapons or production of fissionable materials. Is that the question?

Q. The question goes a little further than that. I was using the statutory language, section 11 (d), and I will repeat it, to make certain it is clear.

Have you found any, in any of these patents or applications for patents which are involved in this proceeding, any teaching or invention which is useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for military weapon, or which utilizes or is essential in the utilization of fissionable material or atomic energy?

A. To my knowledge, I have not.

Mr. BOSKEY. Mr. Chairman, that concludes our direct examination of Mr. Derry.

Chairman Ooms. You may cross-examine, Mr. Jacobi.

Cross-examination by Mr. JACOBI:

Q. You modified your last answers by saying so far as you understood the applications and patents.

A. Yes.

Q. In other words, it is possible that you did not understand them.

A. Well, I read them, and within the limit of my understanding of the written word, I am phrasing my answer.

Q. But it is limited, of course, to your understanding of the same.

A. Yes. I am not saying that I am an oracle.

Q. Would you say that neither of the patents relates to atomic energy.

A. I don't know what you mean when you say "relate to atomic energy".

Q. I mean what it says; does it have any bearing on atomic energy in any form whatsoever?

A. So far as I know, it does not have any particular bearing on atomic energy.

Q. You are referring now to the patents; that is the question.

A. The patents.

Q. With respect to the pending application, and the applications of Fletchers preceding the pending one, of which the pending application is a continuation, would you say that none of them has any bearing on or relates in any fashion whatsoever to atomic energy?

A. I would suspect that everything in this world relates to atomic energy, regardless of whether it is this table or yourself; so far as this application is concerned, or the continuations of this application relating to those things that we use in the atomic energy project, I have never seen it nor never believed that this has any useful application.

Q. That is, so far as you understand the same.

A. Yes.

Redirect examination by Mr. BOSKEY:

Q. So far as you know, have any of these patents or patent applications ever been used by the Commission or its predecessor, the Manhattan District?

A. So far as I know, they never have been.

Mr. BOSKEY. That is all I have on redirect examination.

Chairman OOMS. Just a minute. Do either of the members of the Board wish to interrogate him?

I have a few questions:

By Chairman Ooms:

Q. Mr. Derry, the question raised both in direct and on cross examination led to the answer that to the extent of your knowledge or understanding of these two patents and application, they had no relation to the program which has been here identified as the atomic energy enterprise.

I am troubled by these questions. Do you find it difficult in your own limitation of what is shown in these patents, or what you know of the enterprise, or do you find it so difficult in the actual disclosure in the patents and application?

A. Well, I would say that there is a combination of all of the circumstances, taking up one of your points, I don't know whether it was your first one or not. I think it is impossible for any one person to take a stand and say that he understands everything about what is entirely within the Atomic Energy Project. It is too large. I don't think any one man can say that he knows everything, knows something about everything that is in the Atomic Energy Program. I think I have a pretty wide knowledge. I know a good bit about everything in the plants and laboratories and weapons program. But I would not say that I know everything about it.

Q. But you are reasonably well informed on the two problems to which these questions are generally directed, the production of fissionable material and the use of atomic energy in military weapons.

A. Yes, sir.

Q. I think the further one was the utilization in research in the fields of atomic energy. You are fairly familiar with those aspects of the program.

A. Yes, sir, I am.

Q. Now, the other phase of the questions, as you broke it down, was what was in these disclosures. Did you find anything difficult with those?

A. I had difficulty in understanding the language. I had difficulty in trying to understand that there was disclosure in the testimony that I have heard here. I have tried to relate

some of the descriptions to what I have read, and an attempt has been made in the applications of this, well, I think this is the one in front of me, by use of a lot of terminology and words that we have used in atomic energy, of course, and an attempt to relate this device to use in atomic energy, but my knowledge does not let me, does not permit me to associate this with anything that we have within the project. There is nothing, no relation that I can see how this would have any place within the program.

Q. Discarding any difficulties and perhaps awkwardness both of our own understanding and of the expression all of us find the English language somewhat limited at times, do you find any correspondence in substance between what is disclosed in those documents, and what you have found to be the practices of the Atomic Energy Commission?

A. I have found none. I can answer that.

Chairman Ooms. That is all the Board has.

* * * * *

PATENT COMPENSATION BOARD

RULING ON EXCEPTIONS

UNITED STATES ATOMIC ENERGY COMMISSION

Docket No. 1

IN RE APPLICATION OF NELLIE PAULINE FLETCHER AND
WILLIAM ARTHUR FLETCHER

ROOM 2017, TEMPORARY BUILDING No. 3,
WASHINGTON, D. C.,
Wednesday, March 1, 1950.

The above-entitled matter came on for ruling at 10:00 a. m.
Before Casper W. Ooms, chairman, John V. L. Hogan, Isaac
Harter.

PROCEEDINGS

Chairman Ooms. The Patent Compensation Board is in session.

As the first order of business, in Docket No. 1 the Board has overruled all exceptions of the Commission and of the appli-

cants, and the proposed findings and proposed determination and proposed statement of reasons for the determination heretofore entered have been today released as the findings, determination, and statement of reasons of the Patent Compensation Board, and that opinion will be published.

EXHIBIT 26, EXCERPTS FROM DECISION OF BOARD OF APPEALS DATED AUGUST 4, 1949, IN THE UNITED STATES PATENT OFFICE

Re application for Patent filed September 7, 1945, Serial No. 614,880. Electrical Methods and Apparatus.

This is an appeal from the action of the Primary Examiner rejecting claims 1 to 39, inclusive, which are all of the claims in the application.

The claims stand rejected on the grounds that the disclosure of the application is indefinite, inoperative, and not sufficiently useful and important.

* * * * *

The action of the Primary Examiner is affirmed.

* * * * *

DECISION OF BOARD OF APPEALS DATED SEPTEMBER 22, 1949

ON PETITION FOR RECONSIDERATION

This is a petition for reconsideration of the decision of the Board of Appeals dated August 4, 1949.

Appellants request the Board of Appeals to conclude that applicants have a description that is presumptively sufficient either for more detailed objections by the Examiner or for revision of the description.

This request and the remaining remarks included in the request for reconsideration do not convince us that the Primary Examiner erred in rejecting the claims on appeal.

The petition has been considered but is denied in respect to making any change in our decision.

Radio Proximity Fuze

One of the most spectacular stories of highly secret weapons released since the war is that of the radio proximity fuze, officially known as the VT (variable time) fuze. This fuze automatically explodes a projectile at just the right time to cause the maximum damage to the target. It was one of the first weapons sought by the National Defense Research Committee, after its formation in August 1940, as a solution to the threat of enemy aviation. Under the joint sponsorship of this Committee and the Army, a project was initiated at the National Bureau of Standards for the development of a fuze for smooth-bore or nonrotating projectiles such as bombs, rockets, and mortars. The development of this fuze ranks as one of the great scientific achievements of the war. Moreover, the developments and techniques embodied in the fuze may be applied to such peacetime equipment as smaller hearing aids, pocket-size radios, walkie-talkies, and a variety of other miniature commercial electronic devices.

The radio proximity fuze is a tiny radio sending and receiving station, so small that some models may be covered by a man's hand. It operates by continuously sending out radio waves. When an object of reasonable size is approached, the radio waves reaching that object are reflected back to the projectile. The fuze receiver picks up these reflected waves, analyzes them, and when they have the desired properties (that is, when the projectile is close enough to the object), an electronic switch is closed, detonating the fuze and the projectile.

VT fuzes so far developed are all generally similar in that they have corresponding elements. These basic components are (1) miniature rugged vacuum

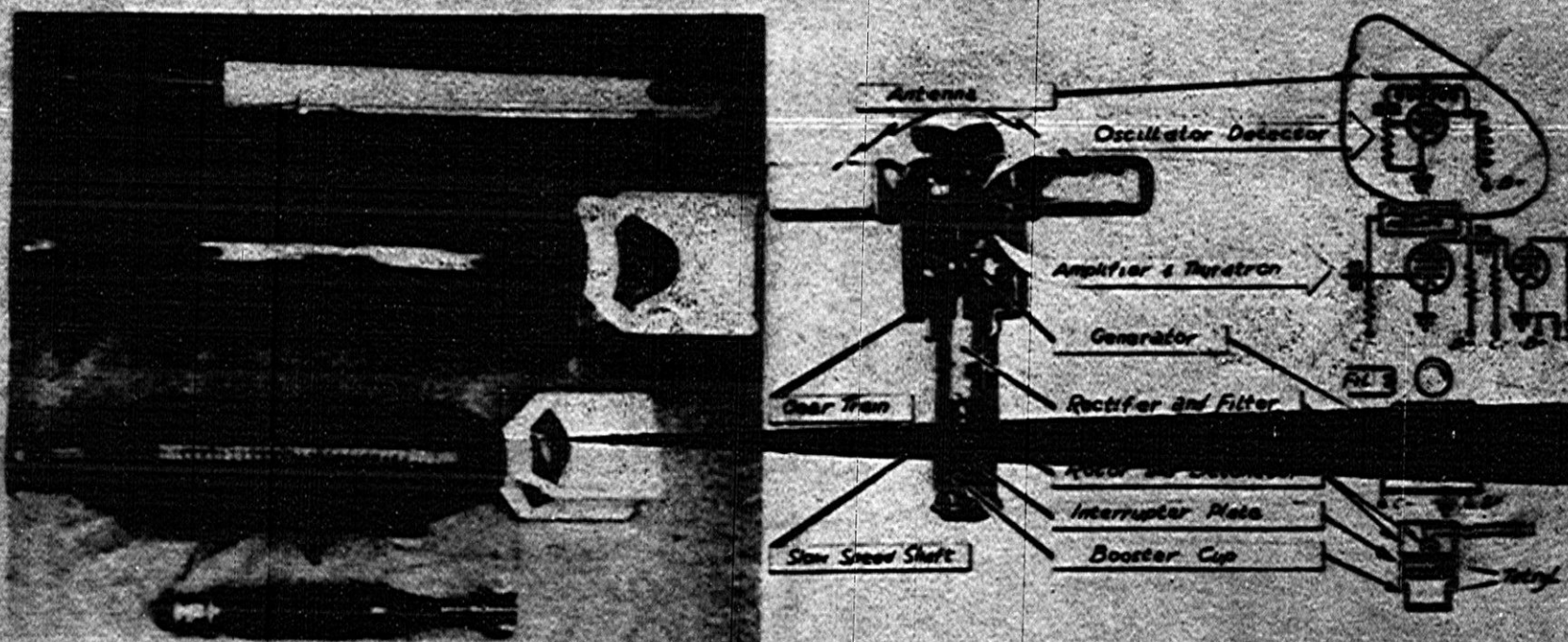
tubes, which must be strong enough to withstand stresses as high as 20,000 g in gunfire; (2) a miniature rugged battery or generator to provide electric power; and (3) safety devices to prevent operation of the fuze until it has traveled a safe distance. The differences involve such factors as size, shape, detailed circuitry, and the type of safety means and electric-power supply.

Early Development

Work on fuzes for nonrotating projectiles got under way at the National Bureau of Standards in December 1940. From the beginning, speed was a primary consideration, and as each development was completed, an increasing number of projects was added. Beginning with a staff of eight in early 1941, the fuze development group grew into an organization of 400 in 1945, aided by the consultative service of all the regular Bureau Divisions.

Development work started much earlier in other countries. Great Britain was working on the idea in 1937 and sent a commission to this country in mid-1940, which gave American scientists the benefit of their experiences. Germany started work on similar devices in the early thirties but made the mistake of too great diversification of methods of approach.

The first object of bomb-fuze development was to build a fuze to set off a rocket attached to a bomb after that bomb had fallen to within several hundred feet of a battleship. By this means, impact velocities high enough to penetrate and sink a battleship were expected. This requirement served as the first short-time objective, but it quickly gave way to a more general



Several missiles (left) with characteristic radio proximity fuzes developed by the National Bureau of Standards. At the bottom is an 80-millimeter mortar shell with generator-powered fuze, next a 260-pound fragmentation bomb with a ring-type fuze, then a 500-pound general-purpose bomb with a high-velocity aircraft-fired rocket with ring-type fuze. Cutaway of bar-type fuze and circuit diagram of primary subassemblies (right).

BEST COPY AVAILABLE

from the original bound volume